

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051 Phone: (860) 827-2935 Fax: (860) 827-2950 E-Mail: siting.council@po.state.ct.us

September 6, 2002

Web Site: www.state.ct.us/csc/index.htm

Peter W. van Wilgen Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, CT 06067-3900

RE:

EM-CING-059-070-082-093-154-020828 - SNET Mobility, LLC notice of intent to modify existing telecommunications facilities located in Groton, Killingworth, Middlefield, New Haven, and Westbrook, Connecticut.

Dear Mr. van Wilgen:

At a public meeting held on September 5, 2002, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the condition that the lattice tower in Westbrook, owned by the Department of Public Safety, be reinforced per recommendations made by Mohsen Sahirad, P.E., and that a professional engineer certify to the Council the successful completion of these reinforcements before the replacement of any antennas.

The proposed modifications are to be implemented as specified here and in your notice dated August 28, 2002. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility sites that would not increase tower heights, extend the boundaries of the tower site, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

This decision is under the exclusive jurisdiction of the Council. Any additional change to these facilities will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours.

Mortimer A

Chairman

MAG/DM/laf

c: See attached list.

l:\siting\cm\cing\multiple\020828\groton\do090502.do

List Attachment.

c: Honorable Frank O'Beirne, Jr., Mayor, Town of Groton Ronald P. LeBlanc, Town Manager James R. Sherrard, Planning Chairman, Town of Groton Honorable David L. Denvir, First Selectman, Town of Killingworth Cathie Jefferson, Zoning Enforcement Officer, Town of Killingworth Honorable Charles R. Augur, First Selectman, Town of Middlefield Geoffrey Colegrove, Town Planner, Town of Middlefield Honorable John Destefano, Jr., Mayor, City of New Haven Frank Gargiulo, Zoning Administrator, City of New Haven Honorable Tony A. Palermo, First Selectman, Town of Westbrook Anthony Beccia, Zoning Enforcement Officer, Town of Westbrook



STATE OF CONNECTICUT

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August 28, 2002

Honorable Frank O'Beirne, Jr. Mayor Town of Groton Town Hall 45 Fort Hill Road Groton, CT 06340

RE:

EM-CING-059-070-082-093-154-020828 - SNET Mobility, LLC notice of intent to modify existing telecommunications facilities located in Groton, Killingworth, Middlefield, New Haven, and Westbrook.

Dear Ms. O'Beirne, Jr.:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting tentatively scheduled for September 5, 2002, at 1:30 p.m. in Hearing Room One, Ten Franklin Square, New Britain, Connecticut.

Please call me or inform the Council if you have any questions or comments regarding this proposal.

Thank you for your cooperation and consideration.

Very touly yours,

S/Derek Phelps Executive Director

SDP/slm

Enclosure: Notice of Intent

c: James R. Sherrard, Planning Chairman, Town of Groton Ronald P. LeBlanc, Town Manager

EM-CING-059-070-082-093-154-020828





Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, Connecticut 06067-3900 Phone: (860) 513-7730

Peter W. van Wilgen Senior Manager - Construction

Fax: (860) 513-7190

HAND DELIVERED

August 28, 2002



Mr. Mortimer A. Gelston, Chairman Connecticut Siting Council 10 Franklin Square New Britain, Connecticut 06051 CONNECTICUT SITING COUNCIL

Re: Southwestern Bell Mobile Systems, LLC notice of intent to modify existing telecommunications facilities located in Groton, Killingworth, Middlefield, New Haven, and Westbrook

Dear Mr. Gelston:

In order to accommodate technological changes, implement E-911 capability and enhance system performance, Southwestern Bell Mobile Systems, LLC ("SNET" or "Cingular Wireless"; formerly SNET Mobility, LLC) plans to modify the antenna configurations at its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of each of the municipalities in which an affected cell site is located.

Attached are summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular's operations at each site. Also included is documentation of the structural sufficiency of each tower to accommodate the revised antenna configuration.

The changes to the facilities do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facilities will not be significantly changed or altered. Rather, the planned changes to the facilities fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

- 1. The height of the overall structure will be unaffected. At almost all sites, new panel antennas approximately the same size will replace those previously installed. Tower mount amplifiers, approximately 5" x 9" x 13", will be added to the platform on which the panel antennas are mounted to enhance signal reception at the cell site. In addition, the mandated provision of E-911 capability will require installation of one LMU ("location measurement unit"), approximately nine inches high, on either the tower, the equipment shelter or the ice bridge. One GPS receive-only antenna will be attached to the equipment shelter at each site. None of the modifications will extend the height of the tower.
- 2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
- 3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.
- 4. Radio frequency power density will increase due to use of additional channels broadcasting at higher power. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, Cingular Wireless respectfully submits that the proposed changes at the referenced sites constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7730 with questions concerning this matter. Thank you for your consideration.

Sincerely,

Peter W. van Wilgen

Senior Manager - Construction

Enclosures

CINGULAR WIRELESS Antenna Modification

Site Address:

68 Groton Long Point Road, Groton

Docket 175 approved 11/21/96

Tower Owner/Manager:

Town of Groton

Antenna configuration

Antenna Centerline – 133 ft

Current and/or approved: Nine Swedcom ALP110-11 panels

Planned:

Nine CSS DUO1417-8686-4-0 panels or comparable

6 tower mount amplifiers

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 6.6 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 9.3 %, or an additional 2.7 % of the standard.

Cingular Current

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS	133	880 - 894	19	100	0.0386	0.5867	6.6

Cingular Planned

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS TDMA	133	880 - 894	16	100	0.0325	0.5867	5.5
SBMS GSM	133	880 - 894	2	296	0.0120	0.5867	2.1
SBMS GSM	133	1930 - 1935	2	427	0.0174	1.0000	1.7
Total							9.3%

Structural information:

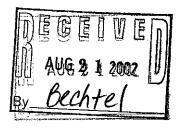
Please see attached.



SELF SUPPORTER STRUCTURAL ANALYSIS REPORT

for

BECHTEL CORPORATION 175 CAPITAL BOULEVARD SUITE 100 ROCKY HILL, CT 06067



August 19, 2002

SITE:

New Groton 2164
New London County, CT
140' SS Tower
Project Designer: Hachem K. Domloj
o2wireless Solutions Job No. 103-3637-11

INTRODUCTION

This report summarizes the results of the structural analysis performed on the 140' self supported tower at the New Groton site in New London County, Connecticut. The tower analysis was performed using 1999 GuyMast/Mast program.

ANALYSIS CRITERIA

The tower was analyzed for the specified loads in accordance with the current EIA-222-F publication, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures." This analysis derives its applied forces from EIA minimum 85 MPH basic wind speed with no ice accumulation and 74 MPH wind speed with 1/2" ice.

TOWER LOADING INFORMATION

Bechtel Corporation requested o2wireless Solutions analyze the tower to verify its structural integrity under the following antenna and transmission line loading:

ELEVATION	STATUS	DESCRIPTION	LINE
140'	EXISTING	12- ALLGON 7130.16	12- 1 5/8" COAX
133'	PROPOSED	9- DUO1417-8686-4-0*	9- 1 1/4" COAX
121' 6"	EXISTING	1- DB 10' TROMBONE	1- 7/8" COAX
119'	EXISTING	1- DB 10' TROMBONE	NONE
103'	EXISTING	1- DB 10' TROMBONE	1- 7/8" COAX
101'	EXISTING	1- 20' WHIP	1- 1 1/4" COAX
101'	EXISTING	1- 20' DIPOLE	1- 1 1/4" COAX
101'	EXISTING	2- DB810T3-XT	2- 1 5/8" COAX
101'	EXISTING	1- 10' DIPOLE	NONE
101'	EXISTING	1- 15' WHIP	1- 1 1/4" COAX
101'	EXISTING	1- 2' 6" TROMBONE	1- 1 1/4" COAX
95'	EXISTING	1- DB 10' TROMBONE	1- 7/8" COAX
90'	EXISTING	1- DB 10' TROMBONE	NONE
69'	EXISTING	1- DB 10' TROMBONE	1- 7/8" COAX
55'	EXISTING	2- 20' WHIP	3- 7/8" COAX
45'	EXISTING	1- 2' SOLID MW DISH	1- 3/8" COAX
38'	EXISTING	1- 20' WHIP	1- 7/8" COAX

^{* 6} DDD TMA 1900 to accompany the antennas at level 133'.

AVAILABLE DOCUMENTS

- All tower data information, antenna types and locations were obtained from tower mapping.
- RF sheet.

RESULTS

The graphs enclosed summarize the results of the tower study and itemize the structural components, specifying member function, elevation, and size. Values for allowable and actual member loads are reported along with the corresponding allowable wind conditions. The graphs summarize the existing structural components and their corresponding applied loads.

CONCLUSIONS AND RECOMMENDATIONS:

The New Groton tower will support the proposed loading and meet the requirements of the EIA Standard without any further modifications required. The analysis is reflected in run M3637-11 and shown in the drawing.

Information on the foundations and geotechnical report was not provided, thus, precluding any comments on their performance under the proposed loading criteria.

Thank you for this opportunity to work with you and do not hesitate to call if you should have any questions.

Respectfully submitted:

Hachem K. Øomloj, EIT

Project Designer

VG Duvall, Jr., PE

Connecticut Professional Engineer





Southwestern Bell Mobile Systems, LLC

500 Enterprise Drive

Rocky Hill, Connecticut 06067-3900

Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

August 28, 2002

Honorable Ronald P. LeBlanc, Town Manager Town Hall 45 Fort Hill Road Groton, Connecticut 06340-4394

Re: Telecommunications facilities – 68 Goton Long Point Road

Peter W. var Wilgen SL

Dear Mr. LeBlanc:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless ("SBMS" or "Cingular"; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, small amplifiers and a small locator unit on the tower. As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Cingular's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter fully describes Cingular's proposal. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (860) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen

Senior Manager - Construction

Enclosure

CINGULAR WIRELESS Antenna Modification

Site Address:

323 Route 81, Killingworth

Docket 104

Tower Owner/Manager:

Valley Shore

Antenna configuration

Antenna Centerline – 133 ft

Current and/or approved: Three omnidirectional whip antennas

Planned:

Nine DUO1417-8686-4-0 panels or comparable

9 tower mount amplifiers

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 6.6 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 9.3 %, or an additional 2.7 % of the standard.

Cingular Current

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS	133	880 - 894	19	100	0.0386	0.5867	6.6

Cincular Planned

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS TDMA	133	880 - 894	16	100	0.0325	0.5867	5.5
SBMS GSM	133	880 - 894	2	296	0.0120	0.5867	2.1
SBMS GSM	133	1930 - 1935	2	427	0.0174	1.0000	1.7
Total				10 (10 (10 (10 (10 (10 (10 (10 (10 (10 (9.3%

Structural information:

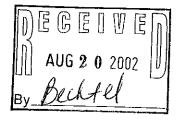
Please see attached.



SELF SUPPORTER STRUCTURAL ANALYSIS REPORT

for

BECHTEL CORPORATION 175 CAPITAL BOULEVARD SUITE 100 ROCKY HILL, CT 06067



July 19, 2002

SITE:

Killingworth, 2045
Middlesex County, CT
140' SS Tower
Project Designer: Thanh Tang
o2wireless Solutions Job No. 103-3637-05

INTRODUCTION

This report summarizes the results of the structural analysis performed on the 140' self supported tower at the Killingworth site in Middlesex County, Connecticut. The tower analysis was performed using 1999 GuyMast/Mast program.

ANALYSIS CRITERIA

The tower was analyzed for the specified loads in accordance with the current EIA-222-F publication, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures." This analysis derives its applied forces from EIA minimum 85 MPH basic wind speed with no ice accumulation and 74 MPH wind speed with 1/2" ice.

TOWER LOADING INFORMATION

Bechtel Corporation requested o2wireless Solutions analyze the tower to verify its structural integrity under the following antenna and transmission line loading:

ELEVATION	STATUS	DESCRIPTION	LINE
140'	EXISTING	1- 10' x 4" WHIP	1- 1 5/8" COAX
140'	EXISTING	4- DB 810	4- 1 5/8" COAX
133'	PROPOSED	9- DUO1417-8686-4-0*	9- 1 5/8" COAX
120'	EXISTING	3- RR90-02 W/ 6- TMA	3- 1 5/8" COAX
110'	EXISTING	1- 10' x 3" WHIP	1- 1 5/8" COAX
100'	EXISTING	2- 2' x 15' GRID	2- 1 5/8" COAX
80,	EXISTING	1- 8' x 1" WHIP	1- 1 5/8" COAX

^{* 9} DDD TMA 1900 to accompany the antennas at level 133'.

AVAILABLE DOCUMENTS

- All tower data information, antenna types and locations were obtained from URS Corporation structural analysis dated March 2000. Tower analysis was performed based on the latest modification stated in that report. o2wireless Solutions can not be held responsible for it's accuracy.
- RF sheet.

RESULTS

The graphs enclosed summarize the results of the tower study and itemize the structural components, specifying member function, elevation, and size. Values for allowable and actual member loads are reported along with the corresponding allowable wind conditions. The graphs summarize the existing structural components and their corresponding applied loads.

VG Duvall, Jr., PE

Connecticut Professional Engineer

CONCLUSIONS AND RECOMMENDATIONS:

The Killingworth tower will support the proposed loading and meet the requirements of the EIA Standard without any further modifications required. The analysis is reflected in run GM3637-05 and shown in the drawing pages and is based on the previous modifications, reflected in the URS analysis dated March 2000, being in place.

Information on the foundations and geotechnical report was not provided, thus, precluding any comments on their performance under the proposed loading criteria.

Thank you for this opportunity to work with you and do not hesitate to call if you should have any questions.

Respectfully submitted:

Thanh Tang, EIT

Project Designer





Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, Connecticut 06067-3900 Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

August 28, 2002

Honorable David L. Denvir, 1st Selectman Town Office Bldg. 323 Route 81 Killingworth, Connecticut 06419-1298

Re: Telecommunications facility – 323 Route 81

Dear Mr. Denvir:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless ("SBMS" or "Cingular"; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, small amplifiers and a small locator unit on the tower. As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Cingular's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter fully describes Cingular's proposal. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (860) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen

Senior Manager - Construction

Enclosure

CINGULAR WIRELESS Antenna Modification

Site Address:

238 Meriden Road, Middlefield

TS-SCLP-082-001201

Tower Owner/Manager:

Sprint

Antenna configuration

Antenna Centerline – 129.5 ft

Current and/or approved: Three EMS FS90-11 panels

4.5" diameter pipe extension

Planned:

Three EMS MB96RR900200 panels or comparable

6 tower mount amplifiers & 6 diplexers

10.75" diameter pipe extension (no addl. height)

Orig. & repl. antennas same height; no addl. pipe shows

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 6.9 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 9.8 %, or an additional 2.9 % of the standard.

Cingular Current

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS	129.5	_880 - 894	19	100	0.0407	0.5867	6.9

Cingular Planned

Сотрану	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm ²)	Percent of Limit
SBMS TDMA	129.5	880 - 894	16	100	0.0343	0.5867	5.8
SBMS GSM	129.5	880 - 894	2	296	0.0127	0.5867	2.2
SBMS GSM	129.5	1930 - 1935	2	427	0.0183	1.0000	1.8
Total							9.8%

Structural information:

Please see attached.

DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF 119' EXISTING MONOPOLE WITH NEW PIPE EXTENSION AND REPLACEMENT ANTENNA ARRANGEMENT

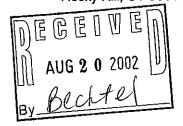
238 Meriden Road Middlefield, Connecticut

Site No.: 1143

prepared for



Cingular Wireless 500 Enterprise Drive, Suite 3A Rocky Hill, CT 06067



prepared by



URS CORPORATION 795 BROOK STREET, BUILDING 5 ROCKY HILL, CT 06067 TEL. 860-529-8882

36911690.00000

Revision 2 August 20, 2002

EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 1 1 9' monopole for replacement of the existing pipe extension located on 238 Meriden Road in Middle field, Connecticut. The analysis was conducted in accordance with the TIA/EIA-222-F standard for wind velocity of 85 mph bare and 74 mph concurrent with ½" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined on the following page of this report. The proposed Cingular Wireless modification is to replace the existing Cingular Wireless antennas and mounts with the inventory listed below:

(3) EMS MB96RR900200_PBL antenna with (6) TMA and (6) Diplexer flush mounted on new pipe extension with (6) 1 1/4"coax cables within the monopole

Cingular

@ 129.5' elevation

The results of the analysis indicate that the new pipe externsion and tower structure to be in compliance with the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading listed on the following page. No further analysis was conducted on the tower foundation since the results calculated were below the ori ginal design.

This analysis is based on:

- 1) The tower structure's theoretical capacity not inclu cling any condition assessment of the tower.
- 2) Tower and foundation design prepared by Paul J. Ford and Company job no. 29298-051 approved January 26, 1998. The tower is man Lafactured by Summit manufacturing project no. 3199.
- 3) Antenna inventory as specified on the following page of this report.
- 4) TIA/EIA-222-F wind load classification.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration and that adequate space is available for routing the coaxial cable inside the monopole prior to installation. Notify the engineer in writing im mediately if any of the assumptions in this report are found to be other than specified.

If you should have any questions, please co

Sincerely,

URS Corporation AES

Mohsen Sahirad Senior Structural Engineer

MS/rmn

Richard R. Johanson - Bechtel cc:

Doug Roberts - URS

I.A. - URS

A.A. – URS

CF/Book

Introduction:

A structural analysis of this 119' communications monopole with a new pipe extension was performed by URS Corporation AES (URS) for Cingular Wireless. The monopole is located on 238 Meriden Avenue in New Britain, Connecticut.

The tower and foundation design was prepared by Paul J. Ford and Company job no. 29298-051 approved January 26, 1998. The tower was manufactured by Summit Manufacturing Incorporated.

This analysis was conducted to evaluate twist (rotation), sway (deflection), and stress on the monopole. The analysis was also used to find the effect of the forces to the foundation resulting from the antenna arrangement listed below.

The antenna and mount configuration:	<u>An</u>	tenna Centerline Elevation
(3) EMS MB96RR900200_PBL antenna with (6) TMA and (6) Diplexer flush mounted on new pipe extension with (6) 1 1/4"coax cables within the monopole	Cingular	@ 129.5' elevation
(9) DB980H90 antenna with low profile platform and (9) 1-5/8" coax cable within the monopole	Sprint	@ 120' elevation
(12) ALP9212 antenna with low profile platform and (12) 1-5/8" coax cable within the monopole	Nextel	@ 109' elevation
(3) RR90-17-02DP antenna with low profile platform and (6) 1-1/4" coax cable within the monopole	Voicestream	@ 98' elevation
(6) Allgon 7250 antenna with low profile platform and (12) 1-5/8" coax cable within the monopole	AT&T	@ 88' elevation

Note: 1. Porthole may be required. Installation of porthole shall be done per manufacturer suggestion.

2. Cingular Wireless shall conduct verification on the assumption of the antenna and mount configuration and that adequate space is available for routing the coaxial cable inside the monopole prior to installation. Notify the engineer immediately if any of the assumptions in this report are found to be other than specified.

URS has prepared construction documents for the new pipe extension. They can be seen on drawings SK-1 and SK-2 dated August 14, 2002 in the appendix section of this report.

Structural Analysis:

Methodology:

The structural analysis was done in accordance with TIA/EIA-222-F June 1996, Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Allowable Stress Design (ASD).

The analysis was conducted using ERI Tower 2.0. Two load conditions were evaluated as shown below which were compared to theoretical allowable stresses according to AISC and TIA/EIA. The two load combinations were investigated in ERI Tower 2.0 to determine the stress, sway and rotation.

Load Condition 1 =

85 mph Wind Load (without ice) + Tower Dead Load

Load Condition 2 =

74 mph Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, allowable stresses of the monopole members were increased by one-third in computing the load capacity.

Evaluation of Monopole:

Combined axial and bending stresses on the monopole structure were evaluated to compare with allowable stresses in accordance with AISC. The calculated stresses under the proposed loading were below the allowable stresses.

Analysis Results:

Our analysis determined that the monopole will support the proposed antenna replacement and new pipe extension under the analysis criteria outlined on the previous page. No further analysis was conducted on the tower foundation since the results calculated were below the original design.

Our analysis for the proposed new antenna arrangement and load condition is provided in Appendix A.

Limitations/Assumptions:

This report is based on the following:

- 1. Tower inventory for antennas and mounts as listed in this report.
- 2. Tower is properly installed and maintained.
- 3. All members were as specified in the original design Documents and are in good condition.
- 4. All required members are in place.
- 5. All bolts are in place and are properly tightened.
- 6. Tower is in plumb condition.
- 7. All members are galvanized.
- 8. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
- 9. Foundations were properly constructed to support original design loads as specified in the original design Documents.
- 10. All co-axial cable is installed within or outside the monopole, except as noted.

URS is not responsible for any modifications completed prior to or hereafter, which URS is not or was not directly involved. Modifications include but are not limited to:

1. Replacing and adding new pipe extension

- 2. Removing/Replacing antennas
- 3. Adding antennas and amplifiers

URS hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance by the Owner:

- After the Contractor has successfully completed the installation and the work has been accepted, the Owner will be responsible for the ongoing and periodic inspection and maintenance of the tower and reinforcing system.
- 2. The Owner shall refer to TIA/EIA-222-F, Section 14 and Annex E for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the Owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system is performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F Section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.





Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, Connecticut 06067-3900 Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

August 28, 2002

Honorable Charles R. Augur First Selectman Town Administration Building 393 Jackson Hill Road, P.O. Box 179 Middlefield, Connecticut 06455-0179

Re: Telecommunications facility - 238 Meriden Road

Dear Mr. Augur:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless ("SBMS" or "Cingular"; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, small amplifiers and a small locator unit on the tower. As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Cingular's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter fully describes Cingular's proposal. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (860) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen

Senior Manager - Construction

Enclosure

CINGULAR WIRELESS Antenna Modification

Site Address:

310 Orange Street, New Haven

Initial CSC approval 4/19/88

Tower Owner/Manager:

SNET

Antenna configuration

115-ft building rooftop tower - see below

Base of tower is 191.5 ft AGL

Current and/or approved: 4 ALP11011 panels @ 316 ft AGL centerline

6 ALP11011 panels @ 301 ft AGL centerline

Planned:

4 CSS DUO 14178686 panels @ 316 ft AGL centerline

6 CSS DUO 14178686 panels @ 301 ft AGL centerline

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 2.5 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 3.5 %, or an additional 1 % of the standard.

Cingular Current

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS	316	880 - 894	19	100	0.0068	0.5867	1.2
SBMS	301	880 - 894	19	100	0.0075	0.5867	1.3
Total					Esperi Asia		25%

Cincular Planned

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS TDMA	316	880 - 894	16	100	0.0058	0.5867	1.0
SBMS GSM	316	880 - 894	2	296	0.0021	0.5867	0.4
SBMS GSM	316	1930 - 1935	2	427	0.0031	1.0000	0.3
SBMS TDMA	301	880 - 894	16	100	0.0063	0.5867	1.1
SBMS GSM	301	880 - 894	2	296	0.0023	0.5867	0.4
SBMS GSM	301	1930 - 1935	2	427	0.0034	1.0000	0.3
Total						Professional Section (Sec	3.5%

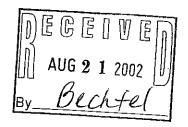
Structural information:

Please see attached.

Demirtas C. Bayar, P.E.

August 15, 2002

Mr. V. G. Duvall, PE Director of Engineering o2wireless Solutions 10430 Rodgers Road Houston, TX 77070



Re: New Haven, CT. tower BE Job No. 0217-A Site # 2034

Dear Mr. Duvall,

We analyzed the existing 115' tower located on the roof of the SNET building at 310 Orange Street, New Haven, CT for a condition of replacing the existing 10 ALP11011 cellular antennas with ten new cellular antennas that have maximum dimensions of 48"x14"x9". Two antennas in each sector will receive a TMA diplexer. Sketch No. 0217-A shows the existing and the proposed new antenna configuration,

Our analysis showed that the increase in the wind load due to the replacement of these 10 antennas did not cause the loads in the members to exceed the allowable loads. Therefore the existing structure will adequately support the loads from the new antenna configuration.

Yours truly,

Demirtas Bayar, P.E.

President



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Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, Connecticut 06067-3900

Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

August 28, 2002

Honorable John De Stefano, Jr., Mayor Kennedy Mitchell Hall of Records 200 Orange Street New Haven, Connecticut 06510-2067

Re: Telecommunications facility – 310 Orange Street

Dear Mayor DeStefano:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless ("SBMS" or "Cingular"; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, small amplifiers and a small locator unit on the tower. As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Cingular's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter fully describes Cingular's proposal. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (860) 513-7730 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Peter W. van Wilgen

Senior Manager – Construction

Enclosure

CINGULAR WIRELESS Antenna Modification

Site Address:

315 Spencer Plains Road, Westbrook

CSC approval 4/18/94

Tower Owner/Manager:

CT State Police

Antenna configuration

Antenna Centerline – 148 ft

Current and/or approved: Nine EMS RS90-17-00DP panels

Planned:

Nine DUO4-8670 panels or comparable

6 tower mount amplifiers

Power Density:

Calculations for Cingular's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 5.3 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for Cingular's planned operations would be approximately 7.5 %, or an additional 2.2 % of the standard.

Cinquiar Current

Omgarar Ourrent								
Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm²)	Standard Limits (mW/cm²)	Percent of Limit	
SBMS	148	880 - 894	19	100	0.0312	0.5867	5.3	

Cingular Planned

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm ²)	Standard Limits (mW/cm²)	Percent of Limit
SBMS TDMA	148	880 - 894	16	100	0.0263	0.5867	4.5
SBMS GSM	148	880 - 894	2	296	0.0097	0.5867	1,7
SBMS GSM	148	1930 - 1935	2	427	0.0140	1.0000	1.4
Total							7.5%

Structural information:

Please see attached.

DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF 180' EXISTING LATTICE TOWER FOR REPLACEMENT ANTENNA ARRANGEMENT WITH PROPOSED REINFORCEMENT

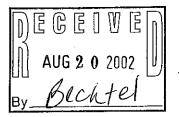
315 Spencer Plains Road Westbrook, Connecticut

Site No.: 2047

prepared for



Cingular Wireless 500 Enterprise Drive, Suite 3A Rocky Hill, CT 06067



prepared by



URS CORPORATION 795 BROOK STREET, BUILDING 5 ROCKY HILL, CT 06067 TEL. 860-529-8882

36911725.00000

August 20, 2002

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the 180' lattice tower located on 315 Spencer Plains Road in Westbrook, Connecticut. The analysis was conducted in accordance with the Connecticut State Police requirements and the TIA/EIA-222-F standard for wind velocity of 90 mph concurrent with ½" ice design wind load. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Analysis Methodology and Loading Condition Section of this report. The proposed Cingular Wireless modification is to add the antennas listed below:

(9) DUO4-8670 antennas and (6) amplifiers with (3) T-Frame mounts and (9) 1 1/4" coax cables

Cinqular

@ 148' elevation

The results of the analysis indicate that the existing tower structure is overstressed with the proposed loading conditions. URS Corporation has proposed tower reinforcement to support the proposed loading condition. The reinforced tower and its foundation are considered feasible with the Connecticut State Police requirements and the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading.

This analysis is based on:

- 1) The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- 2) Tower and Foundation report prepared by Stainless Incorporated report no. 35881.
- 3) Antenna inventory as specified in section 2 and 6 of this report.
- 4) TIA\EIA-222-F wind load classification.
- 5) Coax cable orientation and tower reinforcement as specified on drawings SK-1 through SK-3 in section 6 of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immediately if any of the assumptions in this report are found to be other than specified.

If you should have any questions, please call.

Sincerely.

URS Corporation AES



Mohsen Sahirad, P.E. Senior Structural Engineer

MS/rmn

cc.

Steve Levine – Cingular Wireless Tim Burks – Cingular Wireless Doug Roberts – URS

N.A. – URS A.A. – URS CF/Book

2. INTRODUCTION

The subject tower is located on 315 Spencer Plains Road in Westbrook, Connecticut. The structure is a self supporting 180' steel triangular tapered lattice tower manufactured by Stainless Incorporated.

The tower is constructed of pipe legs, diagonal angle braces and horizontal braces. The tower sections are all bolted together. The width of the face is 10'-7 3/16" at the top and 25' at the bottom. The tower geometry and structural member sizes were taken from Stainless Incorporated project no. 35881.

The existing structure supports several communication antennas. The antenna and mount configuration as specified below:

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Existing	(4) Decibel DB806D Dual Whip Antennas, (1) Celwave BA6312 Omni Whip Antenna, and (2) Celwave PD206 Yagi Antennas on Existing T-Frame Sector Mounts	180'	(7) 7/8" Coax
Existing	(2) Celwave PA6-65 6 ft. Diameter Dish Antenna with Radome on Existing Leg Mounts	177'	(2) 1 5/8" Coax
Existing	(1) Andrew P6-F 6 ft. Diameter Dish Antenna with Radome on Existing Leg Mount	170'	(1) 1 5/8" Coax
Existing	(1) Decibel DB225 Yagi Antenna on Existing Leg Mount	167'	(1) 7/8" Coax
Existing	(1) Celwave PAF4-19 4 ft. Diameter Dish Antenna with Radome on Existing Leg Mount	164'	(1) 1 5/8" Coax
Existing	(1) Decibel DB225 Yagi Antenna on Existing Leg Mount	155'	(1) 7/8" Coax
Existing	(9) EMS RR90-17-00DP Panel Antennas on Existing T-Frame Sector Mounts (To be Removed and Replaced with Proposed Antennas)	148'	(9) 1 1/4" Coax
Existing	(3) EMS RR90-17-00DP Panel Antennas on Existing T-Frame Sector Mounts	133'	(6) 1 1/4" Coax
Existing	(1) Celwave PD100543 Panel Antenna on Existing Leg Mount	122'	(1) 7/8" Coax
Existing	(1) 4 ft. Paraflector Grid Dish Antenna on Existing Leg Mount	115'	(1) 7/8" Coax
Existing	(1) Decibel PD340 Dipole Antenna on Existing Leg Mount	81'	(1) 7/8" Coax
Existing	(1) Decibel DB003MX7 Omni Whip Antenna on Existing Leg Mount	32'	(1) 1/2" Coax
Existing	(1) Decibel DB003MX7 Omni Whip Antenna on Existing Leg Mount	28'	(1) 1/2" Coax
Future State Police Antennas	(3) Celwave PA6-65 6 ft. Diameter Dish Antennas with Radome on Existing Tower Legs	180'	(3) 1 5/8" Coax
Proposed Cingular Antennas	(9) DUO4-8670 Panel Antennas and (6) Amplifiers on Existing T-Frame Sector Mounts	148'	Utilize Existing 1 1/4" Coax

This structural analysis of the communications tower was performed by URS Corporation, AES (URS) for Cingular Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate twist (rotation), sway (deflection) and stress on the tower, and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

Methodology:

The structural analysis was done in accordance with the Connecticut State Police requirements and the TIA/EIA-222-F June 1996, Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Allowable Stress Design (ASD).

The analysis was conducted using ERI Tower 2.0. One load condition was evaluated as shown below which was compared to allowable stresses according to AISC and TIA/EIA. The load combination was investigated in ERI Tower 2.0 to determine the stress, sway and rotation.

Load Condition 1 = 90 mph Wind Load (with ice) + Ice Load + Tower Dead Load

The TIA/EIA standard permits one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For purposes of this analysis, the allowable stresses of the tower members were increased by one-third in computing the load capacity; in addition, the appropriate "k" factors were assigned to each member.

4. FINDINGS AND EVALUATION

The combined axial and bending stresses on the reinforced tower structure were evaluated to compare with the allowable stress in accordance with AISC. The analysis indicates that the tower legs, diagonal members, horizontal members and foundation have sufficient capacity to carry the loads applied.

The tower base reactions are as follows:

Proposed Reinforced Tower Reactions				
Compression (kips)	319			
Uplift (kips)	267			
Total Shear (kips)	62			
Moment (kips-ft)	6463			

For detailed proposed tower reactions, see drawing no. E-1 in section 6 of this report.

5. CONCLUSIONS

The results of the analysis indicate the reinforced structure to be in compliance with the loading conditions and the materials and member sizes for the tower. The reinforced tower is considered feasible with the Connecticut State Police requirements and the TIA/EIA-222-F wind load classification specified above and all the existing and proposed antenna loading. The user of this report shall field verify the assumption of the antenna and mount configuration. Notify the engineer in writing immeadiatly if any of the assumptions in this report are found to be other than specified.

Limitations/Assumptions:

This report is based on the following:

- A. Tower is properly installed and maintained.
- B. All members were as specified in the original Construction Documents and are in good condition.

- C. All required members are in place.
- D. All bolts are in place and are properly tightened.
- E. Tower is in plumb condition.
- F. All member coatings are in condition.
- G. All tower members were properly designed, detailed, fabricated, installed, and have been properly maintained since erection.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

- A. Adding antennas
- B. Adding mounts
- C. Adding coaxial cables

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Ongoing and Periodic Inspection and Maintenance by the Owner:

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- 2. The owner shall refer to TIA/EIA-222-F, Section 14 and Annex E for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system is performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F Section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.



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Southwestern Bell Mobile Systems, LLC 500 Enterprise Drive Rocky Hill, Connecticut 06067-3900 Phone: (860) 513-7730 Fax: (860) 513-7190

Peter W. van Wilgen Senior Manager - Construction

August 28, 2002

Honorable Tony A. Palermo, 1st Selectman Town Hall 1163 Boston Post Rd. Westbrook, Connecticut 06498-0676

Re: Telecommunications facility – 315 Spencer Plains Road

Dear Mr. Palermo:

In order to meet the requirements for improved E-911 capability and to implement a more advanced telecommunications system, Southwestern Bell Mobile Systems, LLC, a/k/a Cingular Wireless ("SBMS" or "Cingular"; formerly SNET Mobility, LLC) will be changing its antenna configuration at certain cell sites. Cingular will install panel antennas, small amplifiers and a small locator unit on the tower. As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review Cingular's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

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Sincerely,

Peter W. van Wilgen

Senior Manager - Construction

Enclosure

SNET MOBILITY LLC

EM-CING-059-070-082-093-154-020828

(68 Groton Long Point Road, Groton, 323 Route 81, Killingworth, 238 Meriden Road, Middlefield, 310 Orange Street, New Haven, 315 Spencer Plains Road, Westbrook)

See Complete file under Groton